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Successful Percutaneous Coronary Intervention of a Chronic Total Occlusion in the Right Coronary Artery Using a Hybrid Strategy

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This study details a percutaneous coronary intervention (PCI) on a challenging chronic total occlusion (CTO) in the proximal right coronary artery (RCA). The procedure was complicated by bridging collaterals and collateral supply from the left anterior descending (LAD) system. A double puncture approach using femoral and radial access was planned to increase procedural success.Guiding catheters JL 3.5 and JR 4.0, along with guidewires such as Sion Blue, Fielder XTR, Gladius EX, and Gaia Next, were employed for crossing the CTO. Initial attempts with Fielder XTR and Gladius EX failed, but Gaia Next 2 succeeded in crossing with the Finecross MG microcatheter.Pre-dilatation involved balloons from 1.25x10 mm at 12 atm to a non-compliant (NC) balloon of 3x18 mm at 18 atm. The guidewire was exchanged to Sion Blue using the trapping balloon technique. A hybrid approach combined drug-eluting balloons (DEB) with a drug-eluting stent (DES). The distal RCA was treated with Magic Touch DEB 2.5x40 mm at 8 atm, and the mid RCA with DEB 3x30 mm at 10 atm, each for 45 seconds. A Xience Xpedition DES 2.75x48 mm was deployed from the ostial to the proximal RCA at 18 atm pressure.Post-dilatation with 3.5x15 mm at 20 atm in the ostial RCA and 3x18 mm at 18 atm yielded excellent results. The final angiogram showed success with good flow and TIMI 3 flow grade in the proximal RCA. A follow-up angiogram is planned for evaluation.